

ters. so that the combination of any one male cell with any one female cell is one of many possible combinations, each of which might have produced an individual possessing some characters peculiar to itself. An element of chance is thus introduced into the formation of offspring which must contribute very greatly to the variety of life. The origin of the changes—whether fluctuations or mutations—that occur in individuals, and are the steps by which new species may arise. remain a mystery unless we ascribe them to an inherent or "bathmic" changefulness of Life, assisted by the clash that results from the meeting of the male and female elements in sexual reproduction.

Darwinists and Mendelists agree in holding that the changes are purposeless—that they may be injurious or beneficial, and if beneficial are only so incidentally. If they are injurious they are eliminated by the struggle for life. If they are beneficial they are established, according to the Darwinian hypothesis, by the assistance they afford to their possessors; according to the Mendelian belief they can become fixed by their own vitality, irrespective of environmental influences.

Mendelism can, therefore, explain the establishment of changes that are neutral—neither injurious nor beneficial—which, on the Darwinian theory, would have little chance of persistence. Darwinists are, accordingly, put to it to discover some positive utility in all peculiarities

that have survived. Vast numbers of these are obviously useful, and, as knowledge extends, utility is discovered in characters the practical value of which was at first not apparent. But it is hardly possible to believe that utility underlies all that is curious and beautiful in the animal and vegetable worlds. It has been shown that, in some cases, colours may be protective; but